

## **PROCIDENTIA RECTI; TREATMENT BY EXCISION.**

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THE object of this communication is not to consider the whole subject of procidentia recti, or complete prolapse of the rectum, nor to detail the different operations which have been employed in attempting to cure the condition. It is the writer's desire to describe a method which he has employed satisfactorily in dealing with procidentia recti in three cases. When the first of these cases presented itself, the text-books dealing with rectal diseases were consulted. It was found that there were several methods from which to choose, as follows: Reduction of the procidentia and constricting the anal aperture by suture placed in different ways by different operators; by cauterizing several longitudinal strips from the base to the apex of the protruding mass; by plastic operations; by elastic ligature; by opening the abdomen, shortening the rectal mesentery, and fastening it to the abdominal wall; by performing abdominal colopexia; and by excising the mass.

The latter method appeared to the writer to be the most practical. The details of the procedure were not found; and as the results obtained by the technic employed have proven more satisfactory than was expected, the steps of the operation are here illustrated and described.

There are certain etiological factors which have a practical bearing upon the success of any operative procedure which attempts to produce a radical cure of procidentia recti. In children the prolapse may be due to straining during urination because of the presence of a congenital urethral stricture or phymosis, or because of the presence of vesical calculus. Such predisposing factors should, of course, receive appropriate treatment before the rectal operation is

undertaken. In the adult the predisposing factors are seldom to be considered, it being the general belief that the presence of the procidentia recti depends upon a loss of tone of the musculature of the pelvic floor (perhaps from childbirth), and from an elongated rectal mesentery.

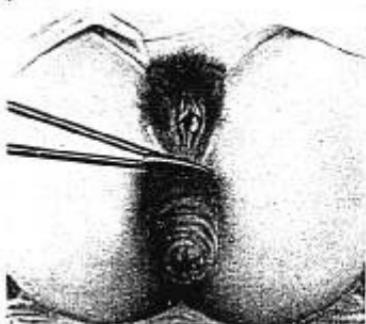
*Preparation for the Operation.*—If ulcerations exist upon the prolapsed mass, or if the mass is acutely inflamed, treatment should be directed toward the improvement of these conditions before the operation is undertaken. The same is true of foul vaginal secretions and of certain cases of eczema of the buttocks. A light diet and purging of the bowels should be instituted at least two days before the operation, so that the bowel will be free from contents. Just before coming to the operating table, the lower bowel should receive a copious irrigation of 4 per cent. boric acid solution, which should be made to return. The vagina should be flushed in a similar manner.

*Operation.*—The patient is placed in the lithotomy position, with the buttocks well over the end of the table. The protruding mass and the surrounding parts should be made clean by soap and water and alcohol. The vagina should be packed with sterile gauze.

The protruding mass should be covered with sterile gauze and drawn outward. The rectal sphincters are usually so dilated that they cannot be defined. An incision should be made with a knife at a point three-quarters of an inch from, and parallel with, the anal margin. This incision will usually be beyond the internal sphincter. It should be carried through all the layers of the gut, thus opening into the pocket of peritoneum beneath. A pair of scissors should now be made to continue this incision around the whole circumference of the protruding mass (Fig. 1). The edges should be widely retracted, as a loop of intestine may be within the peritoneal pouch. If so, it should be forced back into the abdomen before the cut is continued.

After this incision is completed, the outer layer of the protruding mass may be rolled inward by pulling the cut edge

FIG. 1.



Shows the incision three-quarters of an inch from the anal margin. The scissors are in position to continue the incision around the full circumference of the mass.

FIG. 2.



Shows clamp applied to the gut as high as possible after gut has been drawn taut. The knife is cutting off the gut one-half inch beyond the clamp.

FIG. 3.



Shows the position of the gut distal to the clamp being sutured by a button-hole suture of No. 2 chromic catgut to the border of gut surrounding the anal margin. The end of the suture at the first knot is left long to be tied to the other end of the suture when the anastomosis is complete.

outward and rolling the mucous membrane surface inward, thus doubling the length of the protruding gut (Fig. 2). The gut should be drawn outward until taut, and a clamp with flexible jaws should be placed as high as possible. The hemorrhage from the cut end of the intestine will thus be arrested. The hemorrhage from the cut end of intestine about the anal margin is usually an ooze; if, however, there are bleeding vessels in it, they should be snapped but not tied. The protruding gut should be turned upward and the mesentery of the rectum inspected. Vessels which bleed considerably and which require ligation will usually be found. It is important to control all hemorrhage from the mesentery, as intra-abdominal hemorrhage will otherwise result, following the completion of the operation. The gut having been drawn outward until taut, the clamp having been placed on the gut as high as possible, and the hemorrhage having been controlled, the distal portion of the gut is removed by a knife about one-half inch beyond the clamp (Fig. 2).

It remains now to unite the cut edges of the distal portion of gut beyond the clamp to the proximal portion surrounding the anus. This has been done by a buttonhole stitch of No. 2 chromic catgut, each stitch being made to include at least a quarter of an inch of each cut portion of gut (Fig. 3). This stitch is made to unite all the layers of the cut ends until the clamp is reached. The clamp is then removed and the small space previously occupied by it is included in the sutures. The end of the suture is then tied to the end made by the first knot, and the union is complete. The hemorrhage from the cut gut is controlled by the buttonhole suture.

A piece of rubber tubing four inches long is surrounded by iodoform gauze and made sufficiently large to fill the gut entirely, at the point of suture. This is placed within the gut, its passage being facilitated by smearing it with boric acid ointment. The packing is removed from the vagina and iodoform gauze replaced. A self-retaining catheter may be placed in the bladder and siphon drainage established if it is deemed best. A suitable dressing should be applied to the perineum.

*After-treatment.*—The patient should be kept on a light diet, and pil. opii, gr. i, should be given night and morning to prevent the bowels from moving. If siphon drainage of the bladder is not employed, the patient should be catheterized at regular intervals for several days. The rectal plug should be left in position for a week, providing the local condition remains satisfactory. After the plug is removed the rectum should be irrigated with 4 per cent. boric acid solution by means of a glass syringe, the amount being never more than 2 oz. at a time for fear of causing a desire to evacuate the fluid. With each injection the fluid should be sucked out. After the bowel is thus cleansed, one-half ounce of iodoform emulsion should be injected and allowed to remain. This procedure should be performed once daily, provided the local condition remains clean. If it is not clean, the procedure should be practiced several times daily. It is desirous to prevent the bowels from moving for ten days unless symptoms arise which necessitate a movement before this time. If so, 4 ounces of oil should be injected into the rectum to soften the fecal masses, and a purge administered. After the movement the iodoform emulsion should be injected.

The patient should remain under observation for a year or two in order to detect any contraction at the point of suture. If this contraction is detected constriction should be dilated by rectal bougies.

Following is a brief account of the cases:

CASE I.—N. C.; aged 58; married; housewife; admitted to the Long Island Hospital November 1, 1907.

*Past History.*—Never sick or confined to bed except at the birth of her only child. She states that the peritoneum was not torn at that time.

*Present Illness.*—About one week ago, she was first troubled with what she calls "piles," after having been troubled with constipation for some time. She has no pain or discomfort except at the time of descent of the "piles," at which time there is a constant desire of the bowels to move, strain being severe with no passage of faeces.

*Physical Examination.*—Fairly well developed and nourished. Nothing abnormal felt except a complete tear of the peritoneum and a prolapse of the rectum.

*Local Condition.*—The prolapse extends about 3 in. beyond the anal margin. The mucous membrane is swollen, acutely reddened, and furrowed. Both anal sphincters are ruptured in the anterior median line, through the peritoneal body, and into the vagina; the vagina is split on its floor for one inch, either side of the tear being covered with irregular tabs. Because of the tear into the vagina, the prolapse of the rectum occupied the vaginal outlet.

Operation was advised but the patient refused. The parts were kept clean by boric acid irrigation and boric acid ointment. The patient remained in bed most of the time. To sit in a chair or walk was very uncomfortable because the prolapse would return as soon as replaced. The natural tendency of the bowels was to be constipated, and when catharis was employed, incontinence of faeces resulted. Patient experienced so much discomfort that she finally decided to have the operation performed.

*Operation, Jan. 21, 1908.* The steps of the operation were as already described. In addition to the resection of the rectum, the edges of the tear in the vagina were denuded and united by interrupted silkworm gut sutures, passed deeply so as to include the peritoneal body. At the end of operation about 3 oz. of urine were accidentally forced out of the bladder by pressure in the vagina, the urine flowing over the field of operation. A rubber tube surrounded by iodoform gauze was placed in the rectum and a moist corrosive dressing applied. The patient was given pil. opii, gr. i, night and morning, to prevent the bowels from moving.

*Four days after operation* the patient passed the tube voluntarily, followed by a small amount of faeces of firm consistency. One ounce of iodoform emulsion was injected into the rectum daily, and the vagina and peritoneum covered with iodoform gauze. Following the passage of the tubing on the fourth day, the pil. opii was omitted and the patient had a movement of the bowels daily without cathartics. When the patient experienced the impulse to defecate, she could control the desire until preparations had been made for its performance, at which time she was able to perform the act in a perfectly normal manner. This control of the bowels continued for three weeks, when she became

constipated and catharsis was instituted. As a result diarrhoea became active, and there was incontinence of faeces. This diarrhoea was controlled with difficulty. When it was checked the incontinence improved and perfect control returned.

*Five months after operation* the patient was in excellent general condition and most grateful. The continence of faeces continued except when the bowels were loose, at which time there was incontinence. There is no prolapse of the rectum on straining, but the sphincters seem to have but little tone. The repaired vagina and peritoneum remain firm. The finger engages in a cicatricial ring through which it passes with some difficulty and pain, constriction having evidently taken place at the point of suture.

*One year after operation* the patient remains in good health with no return of the prolapse. The continence of faeces continues except when diarrhoea is present, at which time the control is lost temporarily. Following the detection of the constriction, five months after operation, dilation was practiced once a week for two months. The procedure was so painful to the patient that it was omitted. One year following operation it was found that the constriction had not progressed, the lumen remaining as noted at the time at which the dilatation was omitted.

CASE II.—F. T. McC.; female; aged 56; single; cook; admitted to Long Island Hospital for the first time Jan. 8, 1903.

On the above date she was suffering from mitral regurgitation, arteriosclerosis, aortic roughening, hypertrophy of left ventricle, bronchitis, emphysema, and impacted fracture of hip (old). From that time the patient was discharged and readmitted several times, chiefly on account of her cardiac condition.

On July 2, 1907, she returned to the hospital for prolapse of the rectum which she stated had been down for eight days. She had never noticed any trouble with the rectum previously, and her bowels had always been regular when on full diet.

*Physical Examination.*—Poorly developed and poorly nourished. The same lesions as previously noted were present, the cardiac condition having increased in severity. In addition there was a left inguinal hernia of moderate size. The rectum was prolapsed for a distance of about three inches. The mucous membrane was reddened and oedematous.

During the week following admission the bowels moved only by enema, cathartics having little effect.

*Urine.*—Pale; slightly alkaline; sp. gr. 1009; albumin, slight trace. No sugar or bile. Sediment shows abundant squamous epithelium; many hyaline casts; numerous large and small round cells: an occasional fine granular cast; triple phosphates.

*Operation,* Jan. 13, 1908. The steps of the operation were as already described.

*Four days after operation* the patient passed the plug voluntarily, and had a movement of the bowels, moderate size and of firm consistency.

*Fourteen days after operation* the temperature began to rise. Patient became stupid and talked incoherently. At this time she began to have incontinence of faeces. Previously it had been possible to control the bowels by pil. opii, gr. 1, night and morning. A swelling appeared in the right submaxillary gland, which was tender and gave the patient much pain. One day later the right submaxillary gland became slightly swollen. Patient took nourishment with difficulty. The condition of the rectum at this time showed no prolapse even on straining. The line of suture was evident by an induration about one inch inside of the anal margin. The lumen admitted the index finger easily.

Because of the inability of the patient to take food by mouth nutrient enemata were given, these however were not well retained. The patient's condition gradually became worse. The swelling on both sides of the jaw increased; she failed to respond to stimulation; and died Jan. 13, 1908, seventeen days after operation.

*Post-mortem examination* showed the rectal condition to be satisfactory in every respect. The immediate cause of death was probably the septic condition of the submaxillary gland, the underlying cause being chiefly the cardiac condition, which has been alluded to.

**CASE III.**—D. D.; female; aged 49; single; cook; admitted to the Long Island Hospital Sept. 28, 1908.

About a year ago patient began to have pain in abdomen, and soon after passed considerable blood from the rectum. Ever since then, bowels have been irregular: periods of 7 to 8 days of constipation, being followed by diarrhoea. About two months ago rectum prolapsed, and would return immediately when replaced. The condition has been much worse in the past month, and there is considerable abdominal pain and headache.

*Examination* shows the rectum to be invaginated, and to protrude 4 inches. The mucous membrane on the surface is inflamed, slightly ulcerated in places, thickened, and furrowed. Both the internal and external sphincter are ruptured in the anterior quadrant. The tear involves the floor of the vagina for about two inches, so that the prolapsed rectum occupies the vagina. The cervix is small and the fundus of the uterus could not be determined.

*Operation*, Oct. 8, 1908. The steps of the operation were as already described. The technic varied from the usual in as much as it was necessary to denude and unite the edges of the tear in the vagina. This could not be perfectly done on account of the thickened inflamed tissues. Some support, however, was given by the vaginal floor overlying the point of union to the sutured gut. An iodoform gauze plug with a rubber tube in the centre was placed through the united gut. An aseptic pad was placed in the perineum, and held in place by a T-bandage. The patient was catheterized every two hours for the first day, but after that she was allowed to void her urine. Liquid diet and pil. opii gr. i was given night and morning to prevent the bowels from moving. The patient pulled the plug out herself two days following the operation, and it was not replaced. The patient also got out of bed repeatedly and removed the dressing many times. Not clear in her mind, yet general condition good. After removal of the tube 1 oz. of iodoform emulsion was injected daily into the rectum after thorough irrigation with a 4 per cent. boric acid solution. The mental symptoms disappeared in about ten days following the operation, and the inflammation about the vagina and anus was greatly improved.

*One month after operation* the patient was up and about, eating full diet, and greatly pleased with the result of the operation. *Locally*, the tear into the vagina is still present in some degree. There is no protrusion of the rectum. The finger inserted into the rectum shows an indurated area at the line of suture about 1 in. inside the anal margin. The lumen at this point admits the index finger easily. The anal sphincter is apparently functionless.

*Four months after operation*.—The patient's general condition remains good. She eats everything, and it is strange to say that she does not have continual incontinence of faeces. It is stated by the nurse who has charge of the patient that it is seldom

that the bowels move involuntarily; only in periodical attacks of diarrhoea. This observation has been corroborated by the resident surgeon. The explanation of this favorable outcome is not easy to find, as it is felt that the lacerated anal sphincters no longer serve their purpose of retaining the contents of the lower bowel.

*Comment.*—The results of these operations have on the whole been most satisfactory. The patients have considered themselves cured of what was a very distressing condition to them.

It is most surprising that continence of faeces has resulted; inasmuch as the sphincters were ruptured in both of the cases which are living to-day. The explanation of this feature is difficult to understand. It may be that the constriction at the site of suture forms a barrier to the passage of the bowel contents until the lower gut has become full or overdistended. Whether or not this is the true explanation, the fact remains.